

NJDOT Bureau of Research
QUARTERLY PROGRESS REPORT

Project Title:	Tower Street Lighting	
RFP NUMBER: 7192678	NJDOT RESEARCH PROJECT MANAGER: Stefanie Potapa	
TASK ORDER NUMBER: 13	PRINCIPAL INVESTIGATOR: Josh DeFlorio	
Project Starting Date: 1/26/2010 Project Ending Date: 7/25/2010	Period Starting Date: 4/1/2010 Period Ending Date: 6/30/2010	

Task	% of Total Project Budget	Total Budget	% of Task This Quarter	Cost This Quarter	% of Task to Date	Total Cost to Date
1. Kick Off Meeting	9%	\$4,056	0%	0	100%	\$4,056
2. Literature Review	13%	\$5,858	8%	\$469	100%	\$5,858
3. Choose Alternative Application Sites	6%	\$2,704	49%	\$1,325	100%	\$2,704
4. Choose lighting Systems	7%	\$3,154	100%	\$3,154	100%	\$3,154
5. Analyze Base Case Lighting Systems	11%	\$4,957	100%	\$4,957	100%	\$4,957
6. Create Test Case Lighting Systems	14%	\$6,309	100%	\$6,309	100%	\$6,309
7. Conduct Performance Comparisons for all Cost and Safety Factors	22%	\$9,914	90%	\$8,923	90%	\$8,923
8. Final Report	18%	\$8,111	66%	\$5,366	66%	\$5,366
TOTAL	100%	\$45,062		\$30,503		\$41,327

Project Objectives:

The objectives of this project are to:

Provide technical staff with a framework for understanding the potential benefits and constraints associated with utilizing high mast lighting in place of conventional lighting systems in appropriate contexts.

Project Abstract:

This study will explore the potential benefits of replacing conventional highway lighting systems with high mast systems. Factors subject to comparative evaluation include 1) the ease and cost of maintenance, including expected man hours 2) the safety of maintenance personnel, 3) cost/benefit analysis, including capital costs, maintenance costs, energy costs, and anticipated system life, 4) impacts on the safety of the motoring public, and 5) impacts on the environment and aesthetics.

1. Progress this quarter by task:

Task 1:

- n/a

Task 2:

n/a

Task 3:

- Obtained and digitized interchange plans for use in Visual.

Task 4:

- Based on information provided by NJDOT regarding maintenance, replacement cost for equipment, man-hour costs to repair existing lighting and cost per kilowatt hour for lighting, calculated the cost to run the lighting at two locations provided by NJDOT. One location was for the current single pole light fixture and the second was for a location with tower lights.
- Designed tower lighting systems to follow NJDOT design guidelines.

Task 5:

- Field checked the number of existing light fixtures.
- Ran energy consumption and cost calculations.

Task 6:

- Completed analysis for the I-287/I-78 and I-287/Route 1 interchanges comparing the costs to operate, including the design of the tower lighting for the interchange and calculating the operating costs for tower lighting versus the current lighting.

Task 7:

- Evaluated the potential ease and cost of maintenance, the safety of maintenance personnel, impacts on the safety of the motoring public, impacts on the environment and aesthetics.
- Conducted a cost/benefit analysis, including capital costs, maintenance costs, energy costs, and anticipated system life,

Task 8:

- Submitted draft final report for review and comment.

2. Proposed activities for next quarter by task

Task 1:

- Complete.

Task 2:

- Complete.

Task 3:

- Complete.

Task 4:

- Complete.

Task 5:

- Complete.

Task 6:

- Complete.

Task 7:

- Complete.

Task 8:

- Revise final report, incorporating client feedback as necessary.

3. List of deliverables provided in this quarter by task (product date)

- Final report (anticipated 6/25)
- Tech Brief (anticipated 6/25)

4. Progress on Implementation and Training Activities:

- No work on implementation or training in this period.

5. Problems/Proposed Solutions:

- No problems identified for this period

Total Project Budget	\$45,062.46
Contract Amount:	\$45,062.46
Total Project Expenditure to date	\$41,327.00
% of Total Project Budget Expended	92%